

- Fig. 63. *Gaudryina pupoides*, d'Orb. Lateral aspect. Grice's Creek. $\times 37$.
 64. *G. rugosa*, d'Orb. Lateral aspect. Grice's Creek. $\times 37$.
 65. *G. siphonella*, Reuss. Lateral aspect. Grice's Creek. $\times 37$.
 66. *Clavulina communis*, d'Orb. Lateral aspect. Grice's Creek. $\times 37$.
 67. *Gaudryina oxycona*, Reuss. Lateral aspect. Grice's Creek. $\times 50$.

PLATE 4.

- Fig. 68. *Clavulina angularis*, d'Orb. Form A, lateral aspect. 69. Oral aspect. Grice's Creek. $\times 37$.
 70. *C. angularis*, d'Orb. Form A, vertical half-section. Altona Bay Coal-Shaft. $\times 37$.
 71. *C. angularis*, d'Orb. Form B, lateral aspect. 72. Oral aspect. Altona Bay Coal-Shaft. $\times 25$.
 73. *C. angularis*, d'Orb. Form B, vertical half-section. Altona Bay Coal-Shaft. $\times 25$.
 74. *C. textularioides*, Goës. Lateral aspect. 75. Edge view of aboral end. Grice's Creek. $\times 50$.
 76. *Textularia gibbosa*, var. *tuberosa*, d'Orb. Lateral aspect. Kackeraboite Creek. $\times 37$.
 77. *Bulimina elegantissima*, d'Orb., var. *apiculata*, nov. Lateral aspect. Grice's Creek. $\times 50$.
 78. *Virgulina subdepressa*, Brady. Lateral aspect. Grice's Creek. $\times 100$.
 79. *Bolivina textularioides*, Reuss. Lateral aspect. Grice's Creek. $\times 80$.
 80. *B. punctata*, d'Orb. Lateral aspect. Grice's Creek. $\times 80$.
 81. *B. nobilis*, Hantken. Lateral aspect. Grice's Creek. $\times 80$.
 82. *B. robusta*, Brady. Lateral aspect. Altona Bay Coal-Shaft. $\times 50$.
 83. *B. limbata*, Brady. Lateral aspect. Balcombe's Bay. $\times 100$.
 84. *Cassidulina subglobosa*, Brady. Lateral aspect. Altona Bay Coal-Shaft. $\times 100$.
 85. *Ehrenbergina serrata*, Reuss. Ventral aspect. 86. Dorsal aspect. 87. Edge view. Grice's Creek. $\times 50$.

Note on a new South African Tick, *Rhipicephalus phthirioides*, sp. n.
 By W. F. COOPER, B.A., F.L.S., and L. E. ROBINSON, A.R.C.Sc. Lond.

(PLATE 5 and 4 text-figures.)

[Read 20th December, 1906.]

IN the late autumn of last year Dr. S. Williamson, of Berkhamsted, forwarded two dried ticks to us for the purpose of identification. These specimens, a male and a female, had been given to him in Cape Town by Mr. Colin Storey, who had taken them from a horse in Rhodesia, and who remarked at the time that they were unlike any tick which he had previously examined.

Both specimens were much mutilated by a lengthy sojourn in a pocket-book, most of the legs being broken; fortunately these still remained enclosed with the rest, and the specimens were sufficiently serviceable for the purpose

of description. A very cursory inspection sufficed to show that the male was quite unlike any tick which we had seen before, or whose description had, to the best of our knowledge, been published hitherto. The female is quite a typical *Rhipicephalus*, but the male is so peculiar that at first sight we considered that it would justify the creation of a new genus to accommodate it. The capitulum conforms to the generic characters, but the modifications of the ventral chitinous plates or adanal shields, the caudal protuberance, and the form of the 4th pair of legs, are remarkable.

RHIPICEPHALUS PHTHIRIOIDES, sp. n.

Specific characteristics.—**MALE.** Body elongately elliptical, broadest at middle of its length, posterior margin prolonged as a large caudal protuberance. Maximum length 3·5 mm., max. breadth 2·15 mm. Scutum

Fig. 1.

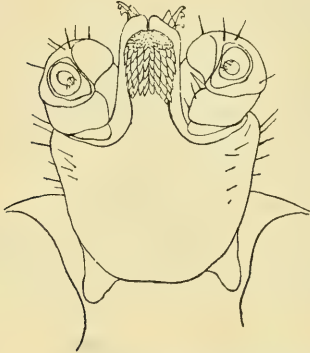
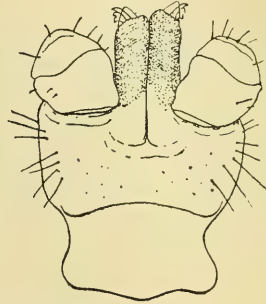


Fig. 2.



Rhipicephalus pthirioides.—Capitulum of Male, $\times 60$.

Fig. 1. Ventral surface. Fig. 2. Dorsal surface.

dark reddish-brown, subrectangular, does not cover entire dorsal surface; anterior margin deeply indented for the reception of the capitulum; cervical furrows shallow, divergent posteriorly; marginal furrows deficient; at the hinder end a short median furrow with shorter accessory furrows on either side; two irregular depressions on the middle of the scutum indicate the site of the punctate areas; eyes small, pale, flat, indistinct in certain aspects, situated on the margin of the scutum, opposite the interspace between the first and second pairs of legs; punctuations small, shallow, irregular, widely scattered; few small hairs, chiefly on those portions of the back not covered by the scutum. Ventral surface with pale scattered hairs; genital pore situated between the coxæ of the second pair of legs; adanal shields fused together in the median line anterior to anus and extending backwards on either side of the latter as two salient spines; stigmal plates almost circular; caudal protuberance bears on its ventral surface a pronounced



FIG. 1.—*Rhipicephalus phthirioides*, ♀.
Dorsal surface. × 13.



FIG. 2.—*Rhipicephalus phthirioides*, ♂.
Dorsal surface. × 13.



FIG. 3.—*Rhipicephalus phthirioides*, ♀.
Ventral surface. × 13.

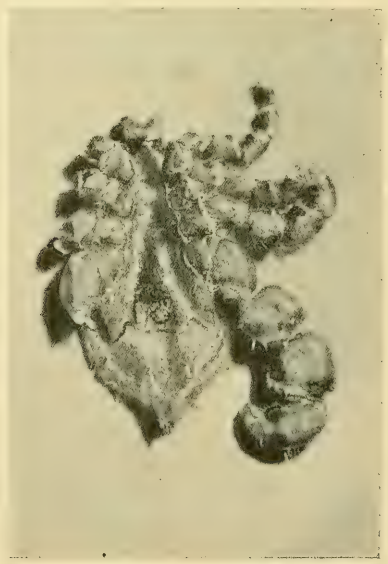
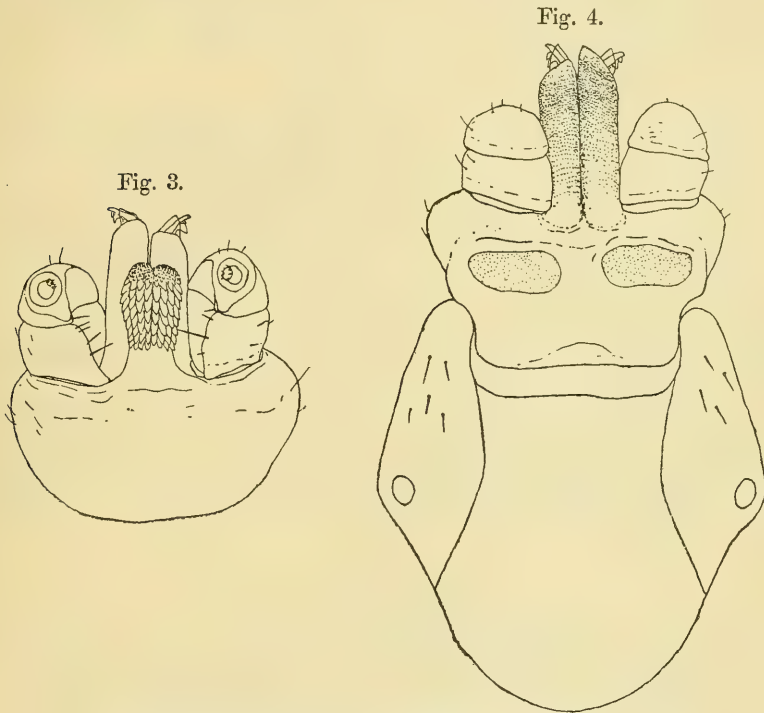


FIG. 4.—*Rhipicephalus phthirioides*, ♂.
Ventral surface. × 13.

chitinous tooth-like projection; postero-marginal festoons indicated by tufts of stiff hairs, six tufts on either postero-lateral margin. Capitulum has the usual generic features. External angles of basal portion not prominent; posterior salient margin with blunt, short, backwardly-directed processes at lateral angles. Palpi subconical, very short; hypostome slightly spatulate, 4 longitudinal rows of teeth on each half, terminal portion with numerous minute teeth. Legs strong, reddish-brown with darker markings; segments



Rhipcephalus phthirioides.—Capitulum of Female, $\times 60$.

Fig. 3. Ventral surface. Fig. 4. Dorsal surface.

of 4th pair enormously dilated; coxæ of 1st pair bidentate, spines very short, coxæ of 2nd, 3rd, and 4th pairs slightly unidentate; tarsi bicalcarate, the terminal spurs being so large as to dwarf the relatively small pulvilli; external margins of the 3rd and 4th pairs of legs fringed with numerous stiff hairs.

FEMALE. Body elliptical, widest at middle. Maximum length 4 mm., max. breadth 2.7 mm.; margin entire. General colour grey with yellowish and darker grey irregular markings. Scutum as broad as long, cordiform, with rounded angles at middle of lateral margins, light reddish-brown; cervical furrows shallow, extending to posterior margin of scutum, divergent behind; eyes pale, brilliant, situated opposite lateral angles; few minute hairs

on antero-lateral portions of scutum. Marginal furrows and festoons deficient, position of latter slightly indicated by a tendency to grouping of the hairs on the margin of the body. Ventral surface shows few scattered hairs and punctuations; genital opening opposite 1st intercoxal space; genital furrows divergent; median ano-marginal furrow shallow, lateral accessory furrows indistinct. Capitulum with basal portion wider anteriorly, porose areas large, irregularly elliptical, well separated; hypostome as in male; palpi stumpy, external angles slightly salient. Legs pale ochre-yellow with brown markings, segments not dilated as in the male; coxal spines as in the male; tarsi bicalcarate, terminal spurs as in the male.

Although the male of this species is apparently so aberrant, after a careful comparison with other *Rhipicephali*, we have no hesitation in placing it in this genus. In the majority of the male *Rhipicephali* the adanal shields originate some distance in front of the anus, and in certain cases a distinct tendency of the anterior extremities of the shields to approach the middle line of the body is exhibited. In the case of *Rhipicephalus phthirioides* there are signs of a median line of demarcation between the two halves of the shield, and this line of demarcation we consider to be the line of fusion of the separate paired adanal shields present in other representatives of the genus. All the other Rhipicephalan features, more or less modified, are present. The general appearance of the male tick is so remarkably louse-like that it suggested the specific name. The description of the female tick was made from a partially gorged specimen.

EXPLANATION OF PLATE 5.

- Fig. 1. *Rhipicephalus phthirioides*, C. & R., ♀. Dorsal surface. × 13.
 Fig. 2. *Rhipicephalus phthirioides*, C. & R., ♂. Dorsal surface. × 13.
 Fig. 3. *Rhipicephalus phthirioides*, C. & R., ♀. Ventral surface. × 13.
 Fig. 4. *Rhipicephalus phthirioides*, C. & R., ♂. Ventral surface. × 13.